of the same flower head. Generally, however, reproduction that results from the conjugation of the sperm-cells and germ-cells of the same flower—or of the same plant—is not as vigorous as if these cells are derived from different plants. and in many cases flowers are elaborately so contrived as to prevent self-fertilization and to leave the germ-cells dependent upon sperm-cells (pollen) which are brought from other flowers by insects. or by the wind. But any general theory on this question is marred by the fact that there are tribes—and very important tribes—of plants which habitually fertilize themselves. or are, even, so shaped as to render cross-fertilization impossible. so that the germ-cells are entirely dependent upon the pollen of the flowers to which they belong. and reproduction is effected by the closest in-and-in breeding. This does not appear to have lessened vitality : amongst these self-fertilizing plants is the pea, which is exceedingly vigorous in growth and in seeding.

`Amongst the simpler forms of animal life it may also occur that the organs for the production of sperm-cells and germ-cells are borne by the same individual: this is even the case with earth worms. But, as a rule, they are appropriated by different individuals. and the distinction of sex comes into being. together with the numerous correlative developments of form. colour. and character that mark the male off from the female. It is believed by

some biologists of the Mendelian school that a male is, in essence, a female[1] *plus* a special character. According to Mendel's law, the male would in this

[1] Amongst mammals the possession of teats by males appears to indicate an underlying femininity. But it should be remarked that from breeding experiments made with the Currant Moth (Abraxas grossulariata) it would appear that it is the female, not the male, which is the more complicated organism, and produces two sets of reproductive cells that are distinct in their sexual potentiality.